EXHIBIT 8
Filed Under Seal

OPENING EXPERT REPORT OF DR. DAN SCHONFELD REGARDING
U.S. PATENT NO. 10,848,885 AND U.S. PATENT NO. 10,469,966

to a synchrony group via a user interface ("UI") action, followed by a message to the zone player (in the form of GRFD messages or others discussed below in this Report). Moreover, consistent with the Court's statements that the "indication" does not require a zone player communicating with other speakers present in the group, there is also no requirement that the zone player being "configured to coordinate" means that it must communicate *directly* with other zone players. Additionally, I understand a zone player can be "configured to coordinate" as long as it has the capability to coordinate under the Court's Order.

3. Standalone

106.   With respect to the term "standalone," Sonos has taken the position that "[a] 'zone player' can be in 'standalone mode' whether or not the 'zone player' is engaging in *active* playback." *Id*. at 11 n. 8 (emphasis in original); *id*. at 8 ("In this respect, each 'zone player' will be operating in one of two states at any given time: (i) a first state in which the 'zone player' is not actively grouped with any other 'zone player' but rather is configured to play back audio individually (i.e., a non-grouped or standalone mode) or (ii) a second state in which the 'zone player' is actively grouped with one or more other 'zone players' such that it is configured to synchronize audio playback as part of that group (i.e., a grouped mode)."). In other words, under Sonos's proposed constructions, a speaker is in standalone mode if it has not been joined to any group, regardless of whether it is active or not active. Each of the prior art grounds discloses standalone mode speakers under Sonos's proposed construction.

4. Written Description

107.   I understand the Court found that the specification *does* disclose "that a zone player may be added to two zone scenes at the same time," at least because the list of zones shown in the user interface of Fig. 5B "includes ALL the zones in the system, including the zones that are already grouped." Dkt. 309 at 15. I note that under the Court's Order, the prior art Sonos products

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("Sonos System") allowed a user to select any Zone Player to link within a group, even though that Zone Player was already a member of the "Party Mode" zone scene. Further, as I explained above in relation to the Court's construction of "zone scene," at least the Sonos 2005 System, Sonos Forums and/or Nourse rendered obvious the ability to have one speaker in two zone scenes at the same time, as did the Logitech System in combination with Nourse.

108.   I understand the Court also found that the specification *does* disclose "that an individual smart speaker that has been added to a speaker group will continue to operate individually – *i.e.*, in 'standalone mode' – until the speaker group of which it is a member is activated by the user, at which point the individual speaker will transition to be controlled as part of the group." Dkt. 309 at 15. I further understand that with respect to the term "standalone mode," it is sufficient for the specification to disclose "that the process of forming a zone scene occurs in a specific order," where the scene is saved and "invoke[d]" later, regardless of the particular behavior of the zone player after the zone scene has been saved and before it has been invoked. I understand that this discloses that zone players can play "synchronously" if grouped together, or "individually if the players are disassociated with each other." Dkt. 30 at 16. As I explained above, in relation to the Court's construction of "zone scene," at least the Sonos 2005 System, Sonos Forums and/or Nourse rendered the ability to have a player continue playing in standalone mode obvious, as did the Logitech System in combination with Nourse.

109.   The Court's findings with respect to written description provide additional support for my invalidity opinions. This is because the extent to which a feature must be described and disclosed in the '885 and '966 patents also informs the extent to which a feature must be described and disclosed in the prior art to anticipate and/or render the claim obvious.

110.   With respect to the claim requirement that zone players may be joined to multiple "zone scenes," the Court's Order noted that in relation to Fig. 5B, reproduced below, it is sufficient

114.   Accordingly, Dr. Almeroth's opinions that "zone scenes" provided an advancement over the prior art are without merit. Based on the Court's Order, the Sonos System discloses the claimed requirement of a zone player becoming a member of multiple zone scenes, at least because it disclosed a "Party Mode" / "All Zones" group, which would necessarily encompass any groups already created and therefore disclose overlapping groups. At all times, predefined "Party Mode" groups are available and accessible and allow the user to join *all* zones in the system, including those that are already grouped. With the Sonos System, the user could see an alphabetical list of the zones and which music has been selected for each zone, group zones together into zone groups, drop zones from a group, and turn the system off.
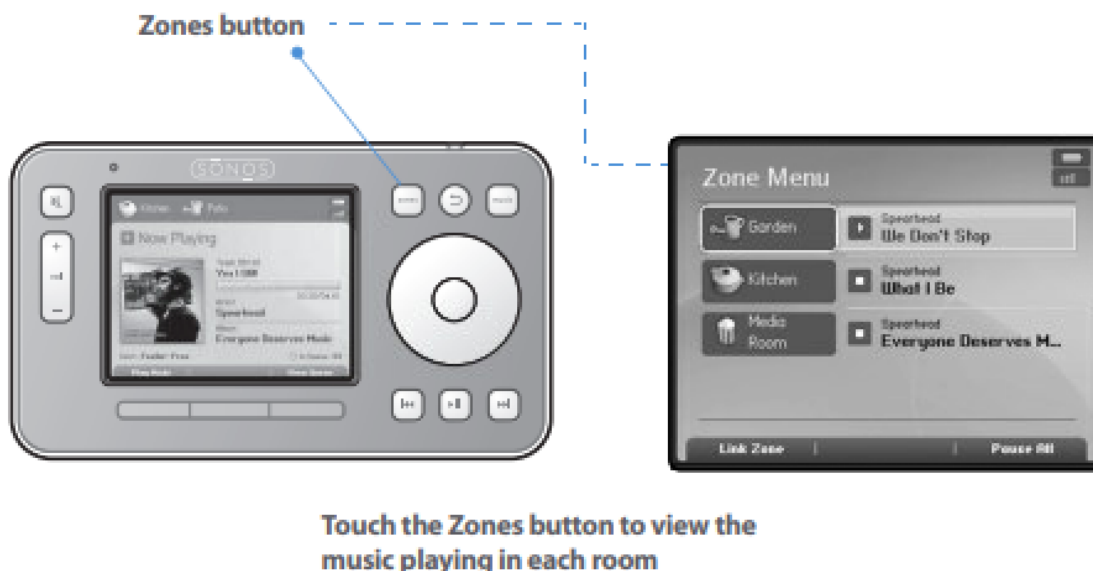
Managing Zones Using Controller

Press the **Zones** button on your Controller to:

- See an alphabetical list of the zones in your household, along with the music currently playing in each zone
- Group zones together to play the same music across zones (create a *zone group*)
- Drop a zone from a zone group
- *Turn off* your music system

Music continues to play while you browse the **Zone** menu. Use the scroll wheel to highlight a zone, and touch **OK**. The **Now Playing** window appears. You can then press the **Music** button [music] to change the music selection for that zone.

Touch the Zones button to view the
music playing in each room

IA at 442; Lambourne Dep. Ex. 1078 at 2-3.

115.   Based on the Court's Order, the Logitech prior art system discloses the claimed requirement of a zone player becoming a member of multiple zone scenes, at least because it disclosed that a single player may be defined in separate sync groups on different SlimServer configurations, saved in different preferences files.[3] One example (v6.2.1) is using a player both

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[3] The '885 patent's inventor agreed that having just a single controller (here, server) would be unrealistic for a setup with many zones. SONOS-SVG2-00227436 (August 2003 email from Mr. Lambourne discussing how it would be "somewhat unrealistic" to have "a five zone house and one remote" because "it is likely that users with five zones will buy more than one remote").

three zone players.

342.   Mr. Lambourne also testified that the Zone Player in the Sonos System would receive the claimed indication, stating that "the Party Mode in our original controller was a command sent by the control design that would tell the speakers in that moment to go for a group, and Party Mode was the term we gave to all the speakers together. This can be referring to that as saying okay, A and B are linked; C and D are linked; but Party Mode invokes them to join together. That could be coming from the control device and then he's describing how the end of Party Mode, A and B and C and D would stay together." Lambourne Dep. Tr. at 79:2-12; 93:15-17 ("If Party Mode was -- if the user pressed Party Mode on the controller, then A, B and C would be caused to be grouped together."); 118:24-119:4 ("Well, the wireless controller that we've been talking about earlier would be used to create that groups of -- I think you said A, B and C and D. So yeah, the wireless controller was being used to generate the command to make that group."); 86:6-7 ("Yes. The Zone Players received commands from the CR 100."); 187:17-21 ("That -- yes, that's one way that the user could get the -- get the rooms to all play the same music. They can also group the speakers, which is effectively the command that Party Mode sent to the player.").

343.   Sonos has also provided documentation showing that "zone scenes" were included in the Sonos System. For example, Mr. Lambourne testified that "party mode" was a "zone scene." Lambourne Dep. Tr. at 63:8-13 ("Q. The Party Mode setting is a Zone Scene; right? THE WITNESS: Yeah. I think I describe a Party Mode as an example of a Zone Scene that can be set up, created.") (objection omitted); 48:13-22 ("Q. Below the macros, in parenthesis, room configurations, there's a box with three entries. One says "party mode," one says "morning mode," and the final says "working mode." Do you see that? A Yes. Q. Were those examples of zone scenes? A Yes. Q. How do you know?   A. Because I designed it.").

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To link a zone to a zone group

You can create a zone group first and then select music to play, or you can add a zone to a zone group where music is already playing.

> **Note:** Any zones you link will automatically drop their current music queue and begin to play the music queue from the highlighted zone. You may sometimes want to save your music queue before linking a zone. See "To create a Sonos playlist" on page 3-17.

1. From the **Zones** pane, highlight the zone you want to link another zone or zone group to.

2. Choose one of the following options:

    • Click **Link Zone.**

Or,

    • From the **Zones** menu, click **Link Zone.**

Link Zone

Select a zone to link to:
Kitchen
[All Zones - Party Mode]
Jack's room

OK   Cancel

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3. Select a zone to add to the group, and click **OK.** If you want to join all the zones in your house to this music queue, select **All Zones-Party Mode.** All of your ZonePlayers will then play the same music until you drop the zones from the zone group.

> **Note:** The order in which you add a zone makes a difference. If you select **Link Zone** from a zone where there is no music playing, any zone you link to it will also be silent.

Lambourne Dep. Ex. 1077 at 30; *see also* IA at 123, 125 (describing multi-room features).

352.   Under the Court's Order, "Party Mode" is a speaker group with a thematic name, which satisfies the claim "zone scene" elements under the Court's Order.

353.   Further, a controller, such as the Windows desktop controller, provides a user interface to add Zone Players from a "joiner" group to a "joinee" group. The controller adds the first Zone Player to a first joinee group by sending a SetAVTransportURI SOAP action, with the first joinee group's Now Playing URI, to the first Zone Player's AVTransport control URI. The

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Now Playing URI has the form "x-rincon:<GROUP COORDINATOR UUID>," which embeds a UUID identifying the Zone Player that is the group coordinator for the first joinee group. The first joinee group includes a second Zone Player. *See, e.g.*:

> 18.   CRoomControl::OnZoneAdd(),V1.2\v1.2-gold\pc\pccp\room_control.cxx, 389–406 at 394–396
>
> 19.   CJoinRoomsDlg::SetData(),V1.2\v1.2-gold\pc\pccp\join_rooms_dlg.cxx, 289–294
>
> 20.   CJoinRoomsDlg::Commit(),V1.2\v1.2-gold\pc\pccp\join_rooms_dlg.cxx, 107–227 at 123–125, 152, 158
>
> 21.   PCUtils::NowPlayingUriFromUDN(),V1.2\v1.2-gold\pc\pccp\pc_utils.h, 61–65 at 63–64
>
> 22.   RAVTClient::SetAVTransportURI(),V1.2\v1.2-gold\oc\protocol\client\src\avt_client.cxx, 19–28
>
> 23.   AVTransportURI action V1.2\v1.2-gold\cc\anacapa\anacapa\pkg\htdocs\xml\AVTransport1.xml, 238–254

354.   The first Zone Player receives a SetAVTransportURI SOAP action with a Rincon group URI that identifies the group to join (joinee group). The Rincon Group URI is the Now Playing URI that was sent by the controller. The Rincon Group URI has the form "x-rincon:<GROUP COORDINATOR UUID>," which embeds a UUID identifying the Zone Player that is the group coordinator for the joined group.

355.   The first Zone Player handles the SetAVTransportURI SOAP action by extracting the group coordinator's UUID from the URI, stopping the local channel sink, using the group coordinator's UUID to determine the Group Management control URI, requesting the group coordinator via the Group Management control URI to add the first Zone Player to its group, and setting up the local channel sink to listen to and play the group coordinator's channel source. The first Zone Player sends the AddMember SOAP action to the group coordinator's GroupManagement service to request addition to the group. *See, e.g.*,

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     24.   RAVTServer::dispatch(),V1.2\v1.2-gold\oc\protocol\server\src\avt_server.cxx, 39–83 at 66, 80

     25.   dm2() macro, V1.2\v1.2-gold\oc\protocol\server\include\common_server.h, 7

     26.   RAVTServer::SetAVTransportURIWrapper(),V1.2\v1.2-gold\oc\protocol\server\src\avt_server.cxx, 85–106 at 96–98

     27.   RAVTMediaRenderer::SetAVTransportURI(),V1.2\v1.2-gold\oc\zp\avt_impl.cxx, 58–136 at 87–89

     28.   RAVTMediaRenderer::setTransportToRinconGroupURI(),V1.2\v1.2-gold\oc\zp\avt_impl.cxx, 423–492 at 428-430, 440, 443-447, 460–466

     29.   RGMZonePlayer::localConfigureGroup(),V1.2\v1.2-gold\oc\zp\gm_impl.cxx, 460–590 at 525-526, 529, 532–536

     30.   RDeviceTopology::getGMControlURIFromRemoteUUID(),V1.2\v1.2-gold\oc\zp\topology.cxx, 1067–1089

     31.   RGMClient::AddMember(),V1.2\v1.2-gold\oc\protocol\client\src\gm_client.cxx, 19–32

     32.   AddMember action, V1.2\v1.2-gold\cc\anacapa\anacapa\pkg\htdocs\xml\GroupManagement1.xml, 26–45

356.   The group coordinator handles the AddMember SOAP action by storing the new group member, including adding the new group member to a collection of group members maintained by the group coordinator's GroupManagement (GM) service component. *See, e.g.*:

     33.   modZPUPnPControl(),V1.2\v1.2-gold\oc\zp\mod_zp.cxx, 728–732 at 731

     34.   RZonePlayer::dispatchUPnPControl(),V1.2\v1.2-gold\oc\zp\zp.cxx, 411–458 at 455

     35.   RGMServer::dispatch(),V1.2\v1.2-gold\oc\protocol\server\src\gm_server.cxx, 37–60 at 45, 57

     36.   dm2(),V1.2\v1.2-gold\oc\protocl\server\include\common_server.h, 7

     37.   RGMServer::AddMemberWrapper(),V1.2\v1.2-gold\oc\protocol\server\src\gm_server.cxx, 62–88 at 72–76

     38.   RGMZonePlayer::AddMember(),V1.2\v1.2-gold\oc\zp\gm_impl.cxx, 82–139 at 104–112

39.   RGMZonePlayer::m_rgGroupMembers[],V1.2\v1.2-gold\oc\zp\gm_impl.h, 154–155

357.   As part of setting up the local channel sink to listen to and play the group coordinator's channel source, the Zone Player switches to the channel source as the Simple Network Time Protocol (SNTP) server for playback time monitoring. During playback, the channel sink uses the SNTP server to determine the clock offset from the server. The clock offset is used to adjust the actual play time. The channel sink also adjusts the digital-to-analog converter (DAC) clock speed to compensate for differences between the desired and actual play times. *See, e.g.:*

40.   RAVTMediaRenderer::setTransportToRinconGroupURI(),V1.2\v1.2-gold\oc\zp\avt_impl.cxx, 423–492 at 466

41.   RChannelSink::changeToRemoteSourceAndPlay(),V1.2\v1.2-gold\oc\zp\chsnk.cxx, 309–337 at 315–318

42.   RChannelSink::setRemoteTransportSettings(),V1.2\v1.2-gold\oc\zp\chsnk.cxx, 663–695 at 679–680, 683–687, 689, 692

43.   RChannelSourceTransportSettings::transportSettings(),V1.2\v1.2-gold\oc\zp\srcbase.h, 47–56

44.   RChannelSink::m_SNTP, V1.2\v1.2-gold\oc\zp\chsnk.h, 102–104

45.   RChannelSink::notifySamples(),V1.2\v1.2-gold\oc\zp\chsnk.cxx, 809–902 at 880–895

46.   SNTPPollThread::convertServerTimeToLocalTime(),V1.2\v1.2-gold\oc\zp\sntppoll.cxx, 180–193

47.   RChannelSink::monitorDACClock(),V1.2\v1.2-gold\oc\zp\chsnk.cxx, 965–1016

48.   RChannelSourceBase constructor, V1.2\v1.2-gold\oc\zp\srcbase.cxx, 102–157

49.   SNTPServerThread::threadFuncInternal(),V1.2\v1.2-gold\oc\zp\sntpsrv.cxx, 37–65 at 60

50.   handleSntpRequest(),V1.2\v1.2-gold\oc\zp\sntp.cxx, 336–366

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(b)   Obviousness – POSITA

358.   As Dr. Almeroth acknowledged, the Sonos System was released in January 2005 and allowed for a so-called "ad-hoc grouping process" which was time consuming.   Almeroth Rebuttal Report at [285], [288]. Accordingly, at least as of January 2005, a POSITA using Sonos's system would have been motivated to find an alternative to this time consuming grouping process, including pre-defined or saved groups (the claimed "zone scenes"). Indeed, Sonos users indicated as much on Sonos forums, and former Sonos employee Graham Farrar testified that Sonos employees themselves monitored these Sonos forums.

359.   Additionally, as I addressed below in relation to Limitation 1.8, it would also have been obvious to modify the Sonos System in view of the knowledge of a POSITA to add this claim limitation, to the extent it is not disclosed for the same reasons discussed with respect to Limitation 1.8.

(c)   Obviousness – Sonos Forums

360.   It would also have been obvious to modify the Sonos System with Sonos Forums to add this claim limitation, to the extent it is not disclosed. For example, the Sonos Forums described *supra* (and fully incorporated herein by reference), disclose the "macro" / "zone scene" Sonos allegedly invented.[9]

Macro / presets

16 years ago · 61 replies

JeffT

Just got the intro bundle, and I am impressed. I did a search and did not find this suggested, but I would save Zone links as favorites. With only 2 ZPs it is not a problem yet, but when I add more it maybe. I would like to setup say Morning mode for the units I want in the morning and a preset volume between the units. Another example I would have 2 party modes, Summer and Winter. The Summer mode would include the deck speakers and the Winter mode would not. Also it would be nice to have playlists or radio station associated with each mode. So when I get up I press Morning the DI Chill radio station plays.

Jeff

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[9]   I hereby incorporate by reference the opinions I expressed during my deposition regarding the Sonos Forums. *See* Schonfeld Dep. Tr., e.g. at pp 188-196.